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measures of double stars made at the Temple Observatory, Rugby.

A. C. Ranyard. Observations of the total solar eclipse of 1878, July 29, made at Cherry Creek Camp, near Denver, Colorado.

OBITUARY.

The Council regret that they have to record the loss by death of the following Fellows and Associates during the past year:—

Fellows:—G. S. Almond.
Célestin Baume.
W. R. Birt.
J. A. Cockburn.
Samuel Courtauld.
Rev. J. M. Heath.
Rev. W. H. Hennah.
Thomas Hopkirk.
H. W. Jeans.
C. H. Pinches.
Richard Webster.

Associates:—Carl Bruhns.
Alfred Gautier.

PIERRE JOSEPH CÉLESTIN BAUME was born in 1819 and was one of the founders of the well-known house of Baume Brothers, at Les Bois, Switzerland. The business of the house was the manufacture of a superior class of Geneva watches, and, having made continued improvements, Mr. Baume conceived the idea of submitting his watches to the judgment of the English firms, and in 1846 came to England for this purpose. He was one of the first to introduce Geneva watches into this country. His success exceeded his utmost expectations, and a business was immediately established in London, which is still carried on.

He was connected with various philanthropic and other societies, and in 1861 was elected a member of the Society of Arts. He was one who helped to found the French Hospital for foreigners in London, which was opened in 1867, and with which he was intimately connected until the day of his death.

He died suddenly at his residence in London on September 27, 1880. He was elected a Fellow of the Society on May 8, 1863.

WILLIAM RADCLIFF BIRT was born on July 15, 1804. His first writings were astronomical, some observations upon the period of the variable star β *Lyræ* having been communicated by him to this Society so long ago as 1830, and published in the

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first volume of the *Monthly Notices.* He also communicated subsequently to the Society some observations on the variability of *α Cassiopeiæ.*

In the years 1839–43 Mr. Birt was employed by Sir John Herschel in the reduction, arrangement, and projection, of the numerous series of barometric observations that had been collected by him, and the results of which formed a series of Reports to the British Association on the reduction of meteorological observations. In the Report for 1843 Sir John Herschel traced two well-defined atmospheric waves which passed over the British Isles and the West of Europe—one in September 1836, and the other in December 1837. At the conclusion of the Report he also noticed the large fluctuations which Mr. Birt had observed in 1842, especially the symmetrical wave which occupied thirteen days in November for its complete rise and fall; and the British Association entrusted Mr. Birt—under the direction of the magnetical committee and the immediate superintendence of Sir John Herschel—with the investigation of these waves, and especially that of November. This led to the publication by Mr. Birt of five Reports on atmospheric waves, in the volumes of the British Association for 1844–48. In 1853 he published his *Handbook on the Law of Storms: being a Digest of the principal Facts of Revolving Storms,* which was intended for the use of captains of ships. A second edition was issued in 1879.

At the meeting of the British Association at Swansea in 1848 Mr. Birt was requested to undertake the reduction and discussion of the electrical observations made at Kew, and the results formed a Report of nearly ninety pages in length, which was published in the volume of the Association for 1849.

About 1859 he published several notes and papers upon the illumination of *Geminus* and other lunar craters; and his name will always be connected chiefly with his observations upon the surface of the Moon. He was the author of five Reports upon mapping the surface of the Moon, which were published in the volumes of the British Association for 1865–69. In these he employed a notation of his own for the symbolising and cataloguing of objects, his desire being to afford unmistakable identification of the smaller features, such as minute craters, mountains, rills, &c. In the last Report (1869) he thus referred to the work accomplished: "Four areas of the Moon's surface, each of 5° in extent, both of longitude and latitude, have been carefully and critically surveyed, not so much for the determinations of positions as in an examination of the physical aspects of 100 square degrees of the Moon's surface by means of the comparison and measurement of photograms, combined with observation at the telescope, by several observers in concert. Outlines of the objects thus surveyed have been laid down on the orthographic projection, on a scale of 200 inches to the Moon's diameter. The area thus surveyed includes 443 objects."

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At the conclusion of the Report it is stated that the number of objects on the Moon's surface registered in accordance with the plan proposed in the first Report (1865) is 2099, of which "769 only have been published—viz. 492 in the Reports of the Committee, and 277 in Mr. Birt's monograph on the 'Mare Serenitatis.'"

He devoted much attention to the question of lunar activity and the detection of change on the Moon's surface, and the discussions relative to the crater *Linné* and the spots on *Plato* will still be well remembered. From about 1861 till Dr. Lee's death he made frequent use, at the invitation of Dr. Lee, of the Hartwell Equatoreal for the purpose of lunar observation. He was a frequent writer, up to the time of his death, on lunar matters, and was a constant contributor to the *Astronomical Register*. He collected together in 1874 under the title *Contributions to Selenography* several notices and monographs on lunar formations, which he had published by subscription during the preceding four years. When the Selenographical Society was founded, four years ago, he was elected its first president, and was re-elected every succeeding year. He did not observe, himself, after 1877, owing to age and weakness. He died on December 14, 1881, and, although his weakness had been steadily increasing, his death was unexpected and almost sudden.

He was elected a Fellow of the Society on January 14, 1859. About two years ago he presented to the Society twelve manuscript volumes containing the portion already completed of the lunar catalogue of the British Association Committee.

Samuel Courtauld, of Gosfield Hall, Essex, was born at Albany, in the State of New York, on June 1, 1793, but his parents, who had gone to the United States to establish some manufacture, brought him to England in his infancy. Following in the steps of his father, who had been one of the first to introduce the industry of "silk-throwing" into Essex, Mr. Courtauld was able, by his genius and perseverance, to develop his business of a silk-throwster into the more difficult one of the manufacture of crape; and the present extensive factories founded by him now form a not unimportant part of British silk-manfacture.

Mr. Courtauld was possessed of considerable mechanical ingenuity, and with a power of research which enabled him to thoroughly exhaust his subject. Though a self-educated man, he had a profoundly scientific mind, capable of acute and sound reasoning; and without being versed in details, he delighted in the discussion of the theories of astronomy and physical science. It was this intellectual power, coupled with a vigorous understanding and an indomitable will, that made him so successful a man in all he undertook.

Mr. Courtauld's name is historically connected with the